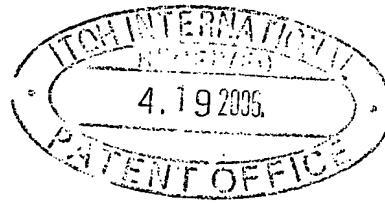


PATENT COOPERATION TREATY PCT



INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference R05165PCT	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/JP2005/018397	International filing date (day/month/year) 28.09.2005	(Earliest) Priority Date (day/month/year) 30.09.2004
Applicant RICOH COMPANY, LTD.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of:

the international application in the language in which it was filed
 a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. Certain claims were found unsearchable (see Box No. II)

3. Unity of invention is lacking (see Box No. III)

4. With regard to the title,

the text is approved as submitted by the applicant
 the text has been established by this Authority to read as follows:

5. With regard to the abstract

the text is approved as submitted by the applicant
 the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. 1

as suggested by the applicant
 as selected by this Authority, because the applicant failed to suggest a figure
 as selected by this Authority, because this figure better characterizes the invention

b. none of the figures is to be published with the abstract

INTERNATIONALSEARCHREPORT

International application No. PCT/JP2005/018397

Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)

The switching regulator has switching transistors that are operated by external clocks. It transfers its mode into stand-by mode by detecting suspension of the external clocks.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2005/018397

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl. **H02M3/155** (2006. 01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl. **H02M3/155** (2006. 01)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Published examined utility model applications of Japan 1922-1996
Published unexamined utility model applications of Japan 1971-2005
Registered utility model specifications of Japan 1996-2005
Published registered utility model applications of Japan 1994-2005

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	JP 2002-262554 A (LINEAR TECHNOLOGY CORP) 13.09.2002, Fig.2 & <u>US 2002/0135338 A1</u> & GB 2376091 A & GB 2407882 A & DE 10205069 A & TW 550444 B	1 2-12
Y A	WO 2003/058804 A2 (KONINKLIJKE PHILIPS ELECTRONICS N.V.) 17.07.2003, Claim 1, Fig.1 & JP 2005-514896 A & <u>US 2005/0116748 A1</u> & DE 10200917 A & EP 1472781 A	1 2-12
Y A	JP 2002-543728 A (KONINKLIJKE PHILIPS ELECTRONICS N.V.) 17.12.2002, Claim 1 & <u>US 6393572 B1</u> & EP 1090343 A & WO 2000/067101 A & CN 1302397 A	1 2-12

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

17.11.2005

Date of mailing of the international search report

18.04.2006

Name and mailing address of the ISA/JP

Japan Patent Office

3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan

Authorized officer

Osamu Kawabata

3V 8718

Telephone No. +81-3-3581-1101 Ext. 3358